

REMARKS/ARGUMENTS

Claims 1, 4, 5, and 8-25 are pending in the present application. Claims 1, 4, 5, and 8 have been amended to better describe the present invention. Claims 2, 3, 6, and 7 have been canceled. Claims 8-25 have been added.

1. The Examiner objected to the disclosure because of noted informalities. Applicants have amended the specification to overcome the informalities and request that this object be withdrawn.

2. The Examiner rejected claims 5-7 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claim 5 has been amended to clearly define the claimed invention. Applicants submit that this rejection is now moot.

Claims 6 and 7 have been canceled, and therefore this rejection is now moot.

3. The Examiner has rejected claims 1-3, 6, and 7 under 35 U.S.C. 102(b) as being anticipated by Cadet et al. (US 5,625,140).

Regarding independent claim 1, Examiner contends that Cadet et al. teach an apparatus comprising a pair of UT transducers disposed axially along a pipe, and a processor responsive to the "transit time", which provides an output indicative of a gas mixture composition.

Applicants submit that Cadet et al do not show all the limitations of the Applicants' invention, as claimed. Newly amended claim 1 recites an apparatus for measuring the composition of a mixture flowing through a pipe, wherein the mixture includes particles suspended within a fluid. Cadet et al. however measure the composition of a gas mixture. Further, claim 1 continues to recite a processor for determining the composition of the mixture using a dispersion model. Cadet et al. do not show or suggest using a dispersion model to determine composition of the mixture. The effects of dispersion are not present in gas mixtures and therefore, would not be needed for the acoustic cell of Cadet et al.

Applicants respectfully traverse Examiner's rejection for at least the reasons provided above. Therefore, Applicants respectfully submit that claim 1 is not anticipated by Cadet et al., and it is respectfully requested that this claim be reconsidered and allowed.

Claims 2, 3, 6 and 7 have been canceled, and therefore the rejections for these claims are now moot.

4. The Examiner has rejected claims 1-4, 7, and 8 under 35 U.S.C. 102(b) as being anticipated by Zacharais, Jr, et al. (US 3,715,709).

Regarding independent claim 1, Examiner contends that Zacharais, Jr. et al. teach a probe that has a pair of ultrasonic transducers disposed along radial axes of a pipe for measuring transit time, and a processor, responsive of the time, to provide an output indicative of the velocity of the mixture flowing through the pipe.

Similar to Cadet et al., Applicants submit that Zacharais, Jr. et al. do not show all the limitations of the Applicants' invention, as claimed. Newly amended claim 1 recites an apparatus for measuring the composition of a mixture flowing through a pipe, wherein the mixture includes particles suspended within a fluid. Zacharais, Jr. et al. detects changes in the characteristics of a flowing fluid as well as to detect the interface between two fluids which are flowing serially in the pipe. (col. 7, lines 59-62) Further in the abstract, the invention of Zacharais, Jr. et al. is a velocimeter having a fixed sound path length so that the repetition rate is a function of the velocity of sound in the fluid and consequently of the characteristics of the fluid. Zacharais, Jr. et al. does not show an apparatus for determining the composition of a mixture having particles suspended therein, as claimed by Applicants.

Further, claim 1 continues to recite a processor for determining the composition of the mixture using a dispersion model. Zacharais, Jr. et al. do not show or suggest using a dispersion model to determine composition. The effects of dispersion are not present in fluid mixtures and therefore, would not be needed for the velocimeter of Zacharais, Jr. et al.

Applicants respectfully traverse Examiner's rejection for at least the reasons provided above. Therefore, Applicants respectfully submit that claim 1 is not anticipated by Zacharais, Jr. et al., and it is respectfully requested that this claim be reconsidered and allowed.

Claims 4 and 8 depend on independent claim 1, and therefore are not anticipated by Zacharais, Jr. et al. Applicants respectfully submit that claims 4 and 8 are allowable.

Claims 2 and 3 have been canceled, and therefore the rejection for these claims are now moot.

5. Claims 1-3 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Brown (US 4,032,259).

Brown shows an apparatus and method that utilize a Doppler flow meter and a velocimeter to make relatively accurate measurements of fluid flow within small bore conduits. (col. 4, lines 59-63) Similar to the arguments presented hereinbefore, Brown does not teach or suggest an apparatus for determining the composition of a fluid flow, nor an apparatus for determining the composition of a mixture having particles suspended therein, as claimed by Applicants. Further, Brown does not teach or suggest using a dispersion model to determine composition. The effects of dispersion are not present in fluid mixtures and therefore, would not be needed for the apparatus of Brown.

Applicants respectfully traverse Examiner's rejection for at least the reasons provided above. Therefore, Applicants respectfully submit that claim 1 is not rendered obvious by Brown, and it is respectfully requested that this claim be reconsidered and allowed.

Claim 8 depends on independent claim 1, and therefore is not rendered obvious by Brown. It is respectfully requested that claim 8 be reconsidered and allowed for at least the reasons provided hereinbefore.

Claims 2, 3 have been canceled, and therefore the rejection for these claims is now moot.

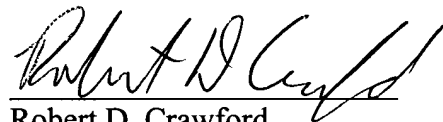
6. Newly added claims 9-21 variously depend on independent claim 1, and therefore are allowable for at least the reasons provided hereinbefore.

7. Newly add claims 22-25 are method claims similar to the corresponding apparatus claims, and therefore are patentable for at least the reasons provided hereinbefore.

8. In view of the foregoing, it is respectfully requested that the application be reconsidered and allowed. If the Examiner is not prepared to allow all the claims in view of the discussion herein, Applicants hereby respectfully request a phone interview with the Examiner at the Examiner's earliest convenient. Applicants' counsel can be reached at 203-626-3502 (direct dial) between the hours of 8:00 a.m. and 5:00 p.m., or by E-mail at rcrawford@cidra.com.

9. A petition for a three-month extension of time under 37 CFR 1.136 is submitted herewith. Please charge the fee of **\$1,070.00** for the three-month extension of time and one additional claim to Deposit Account No. 50-0260 Order No. CC-0699. Any deficiency or overpayment should be charged or credited to Deposit Account No. 50-0260 Order No. CC-0699.

Respectfully submitted,
DANIEL L. GYSLING

A handwritten signature in black ink, appearing to read "Robert D. Crawford", is written over a horizontal line.

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